

FIG. 1

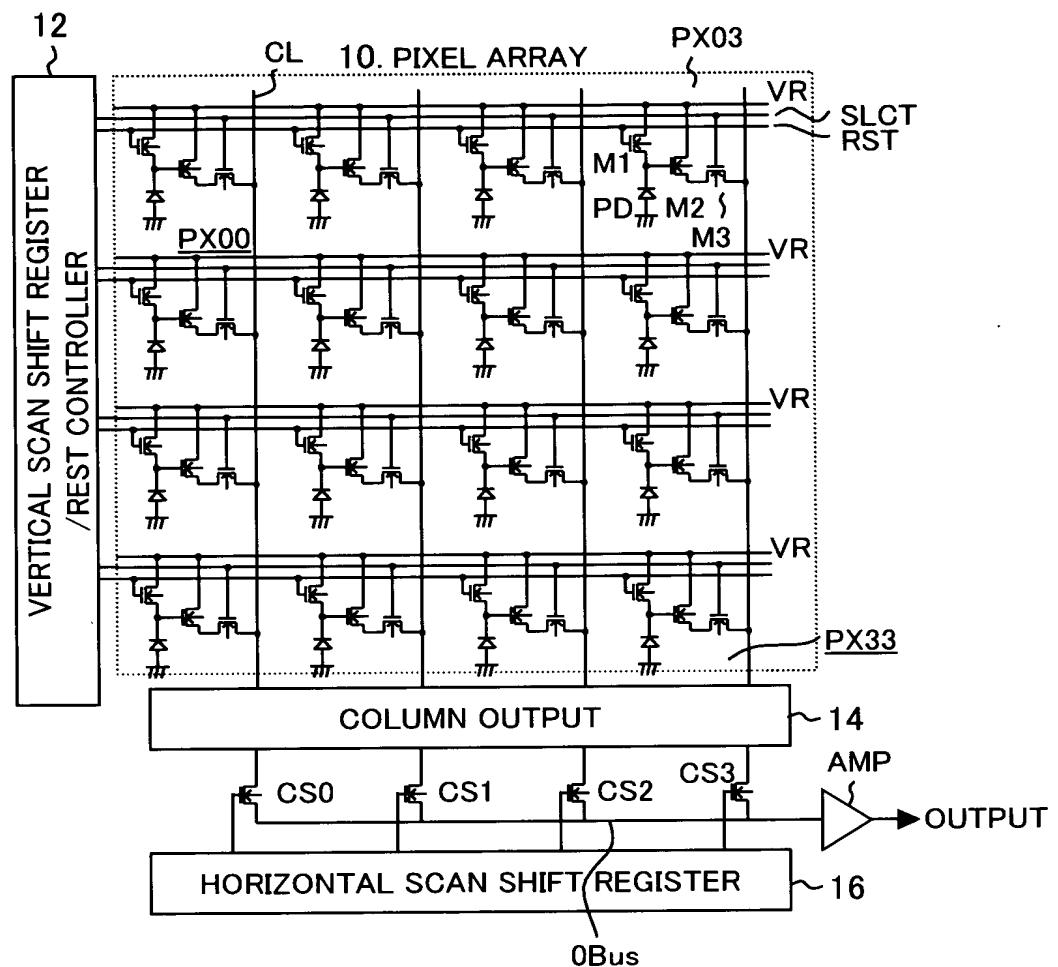


FIG. 2

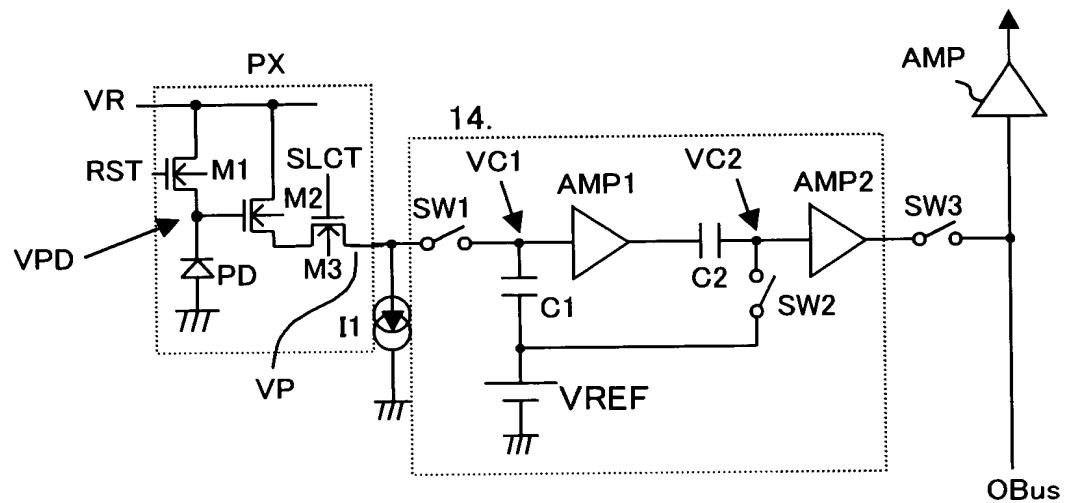


FIG. 3

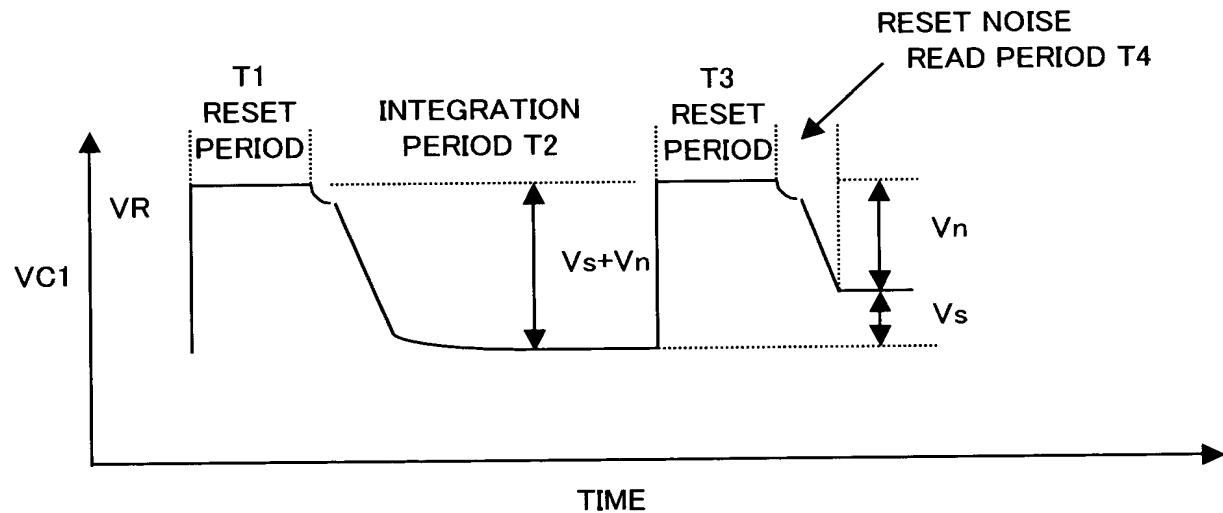
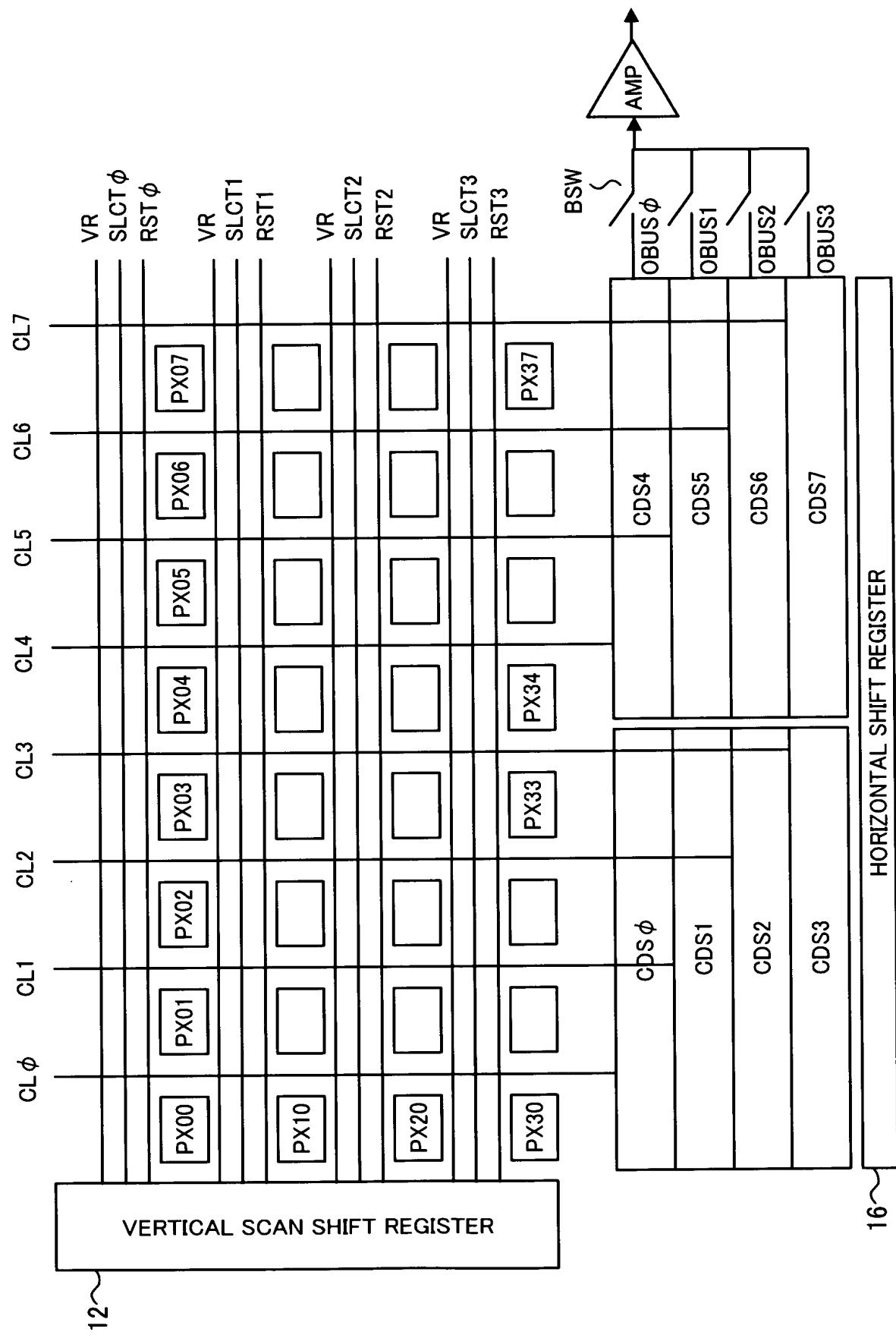


FIG. 4



16~ HORIZONTAL SHIFT REGISTER

FIG. 5

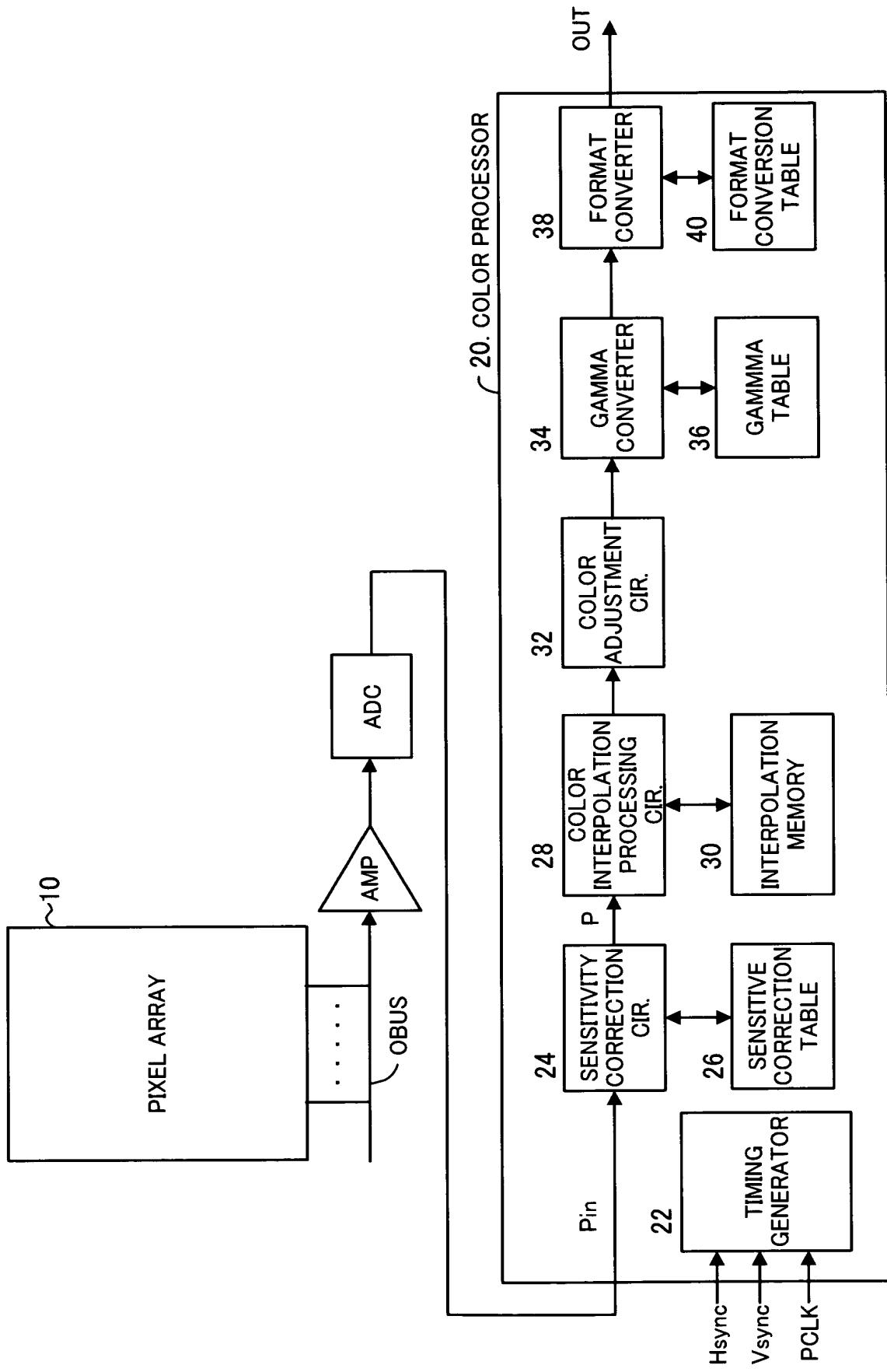


FIG. 6

RGRGRGRGRG
GBGBGBGBGB
RGRGRGRGRG
GBGBGBGBGB
RGRGRGRGRG
GBGBGBGBGB

FIG. 7

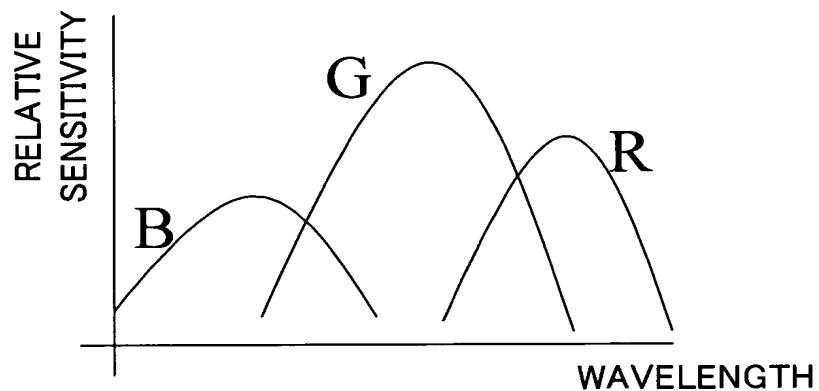


FIG. 8A

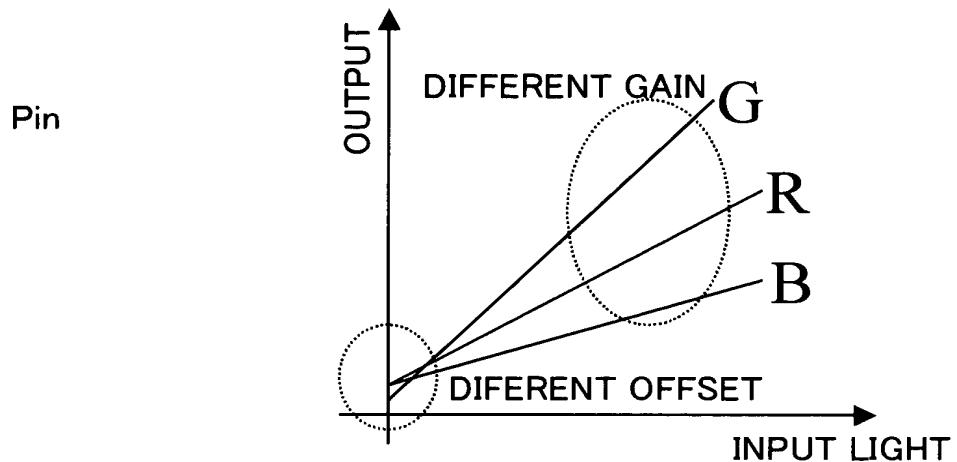


FIG. 8B

Koff
Kgain

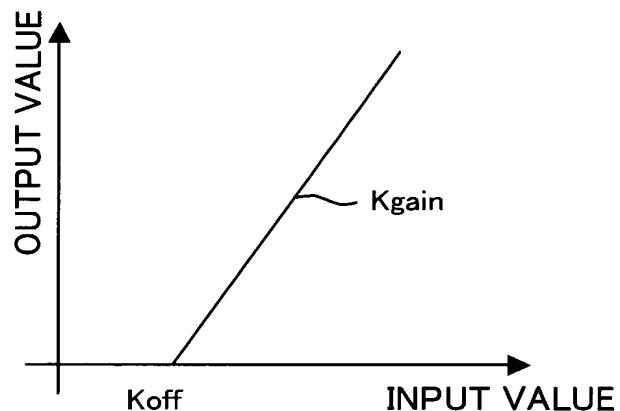


FIG. 8C

$$P = (Pin - Koff) \times Kgain$$

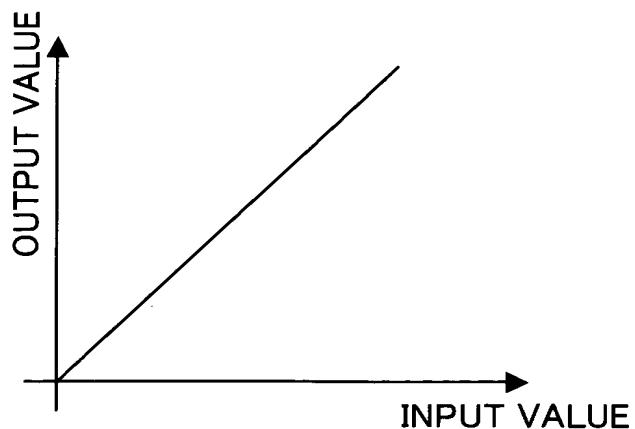


FIG. 9

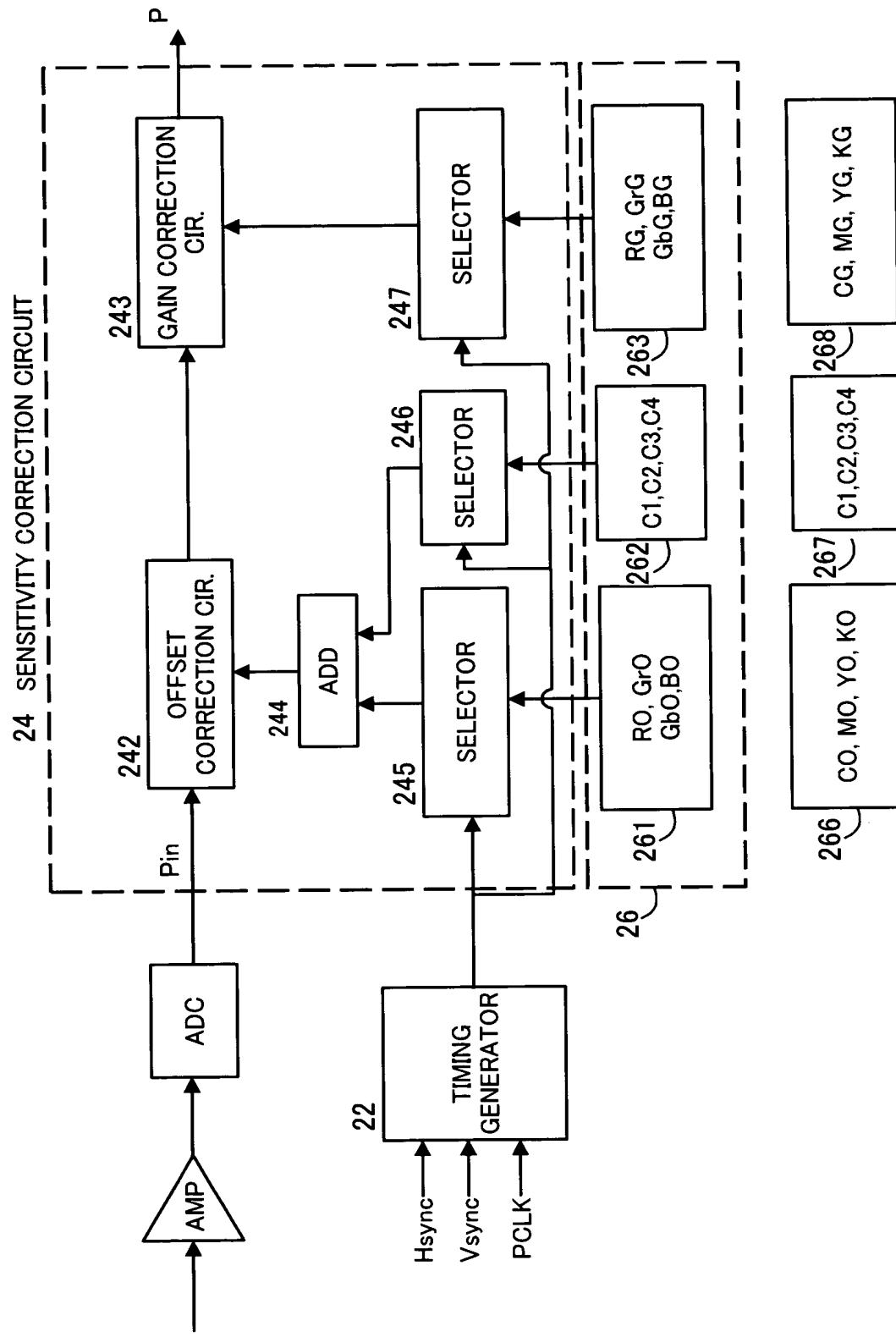


FIG. 10A

(A) PIXEL SIGNALS PIN OUTPUT FROM PIXELS

R11=31 G12=61 R13=33 G14=59
G21=60 B22=13 G23=62 B24=11
R31=31 G32=61 R33=33 G34=59
G41=60 B42=13 G43=62 B44=11

FIG. 10B

(B) OFFSET FOR EACH COLUMN C1=0 C2=1 C3=2 C4=-1
OFFSET FOR EACH FILTER COLOR RO=1 GO=0 BO=2
GAIN FOR EACH COLOR RG=2 GG=1 BG=6

FIG. 10C

(C) FIRST LINE

column 1 R {Pin-(C1+RO)} x RG = R11m
column 2 G {Pin-(C2+GO)} x GG = G12m
column 3 R {Pin-(C3+RO)} x RG = R13m
column 4 G {Pin-(C4+GO)} x GG = G14m

SECOND LINE

column 1 G {Pin-(C1+GO)} x GG = G21m
column 2 B {Pin-(C2+BO)} x BG = B22m
column 3 G {Pin-(C3+GO)} x GG = G23m
column 4 B {Pin-(C4+BO)} x BG = B24m

FIG. 10D

(D) CORRECTED PIXEL SIGNALS P

R11m=60 G12m=60 R13m=60 G14m=60
G21m=60 B22m=60 G23m=60 B24m=60
R31m=60 G32m=60 R33m=60 G34m=60
G41m=60 B42m=60 G43m=60 B44m=60

FIG. 11

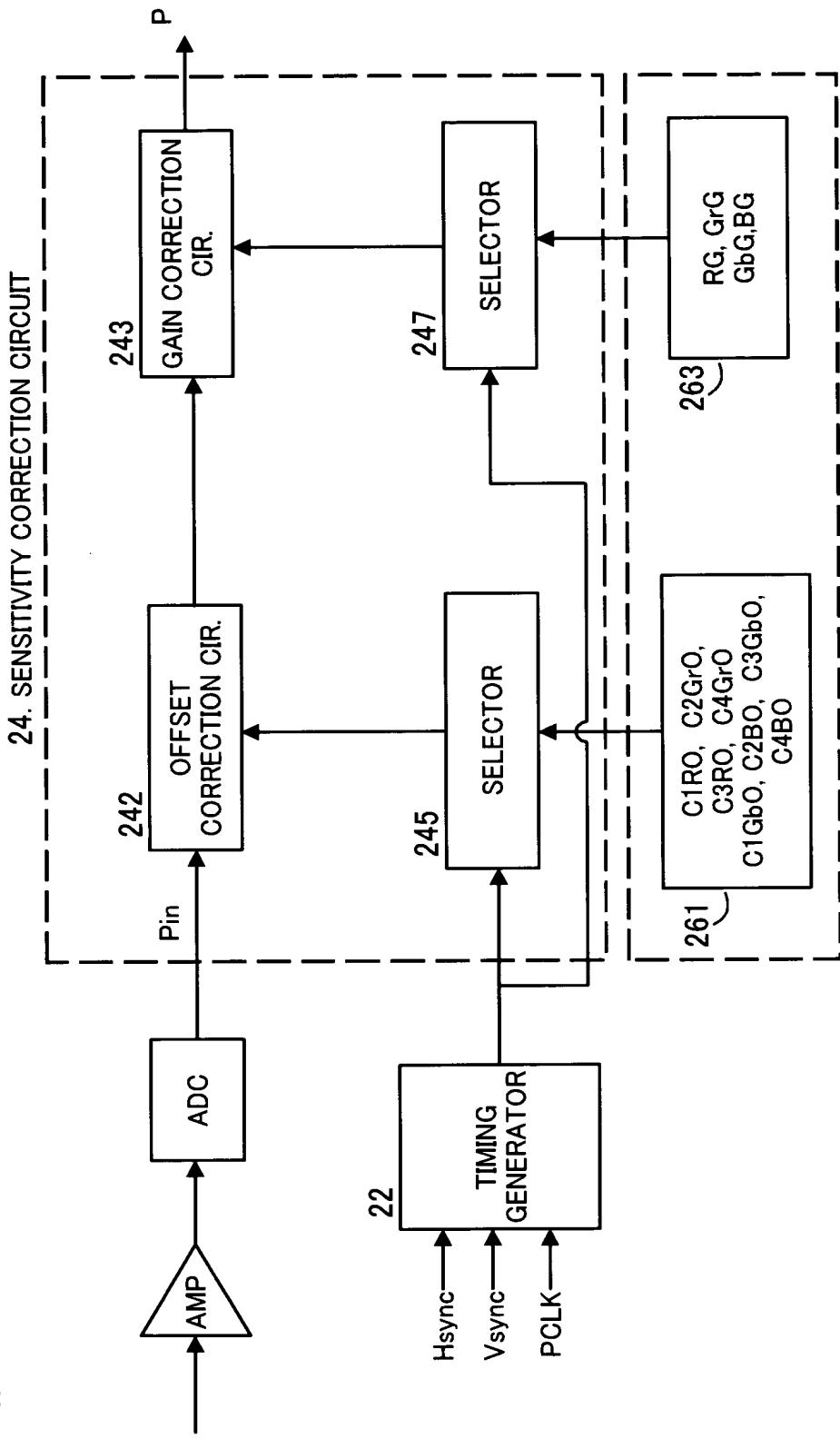


FIG. 12

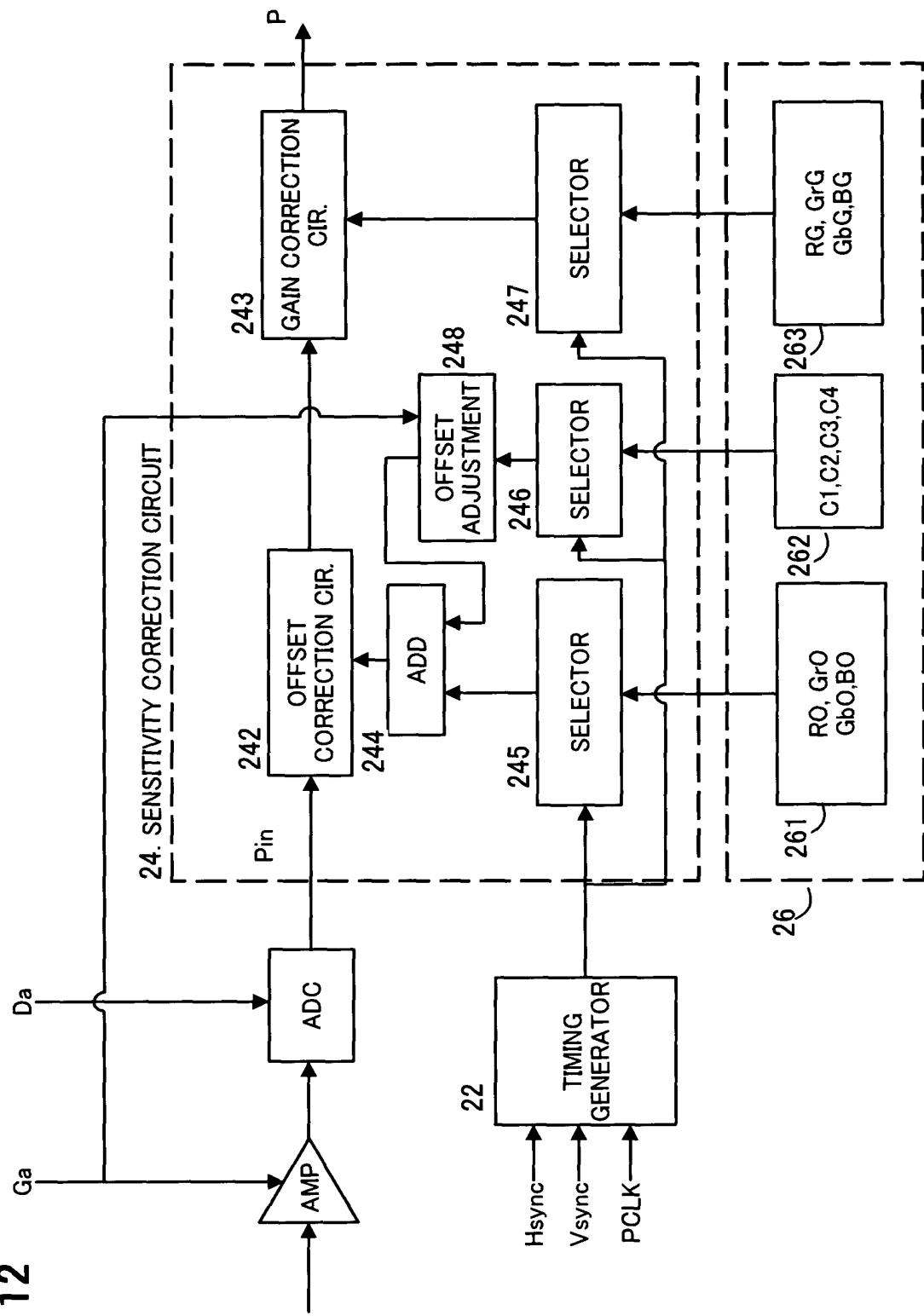


FIG. 13

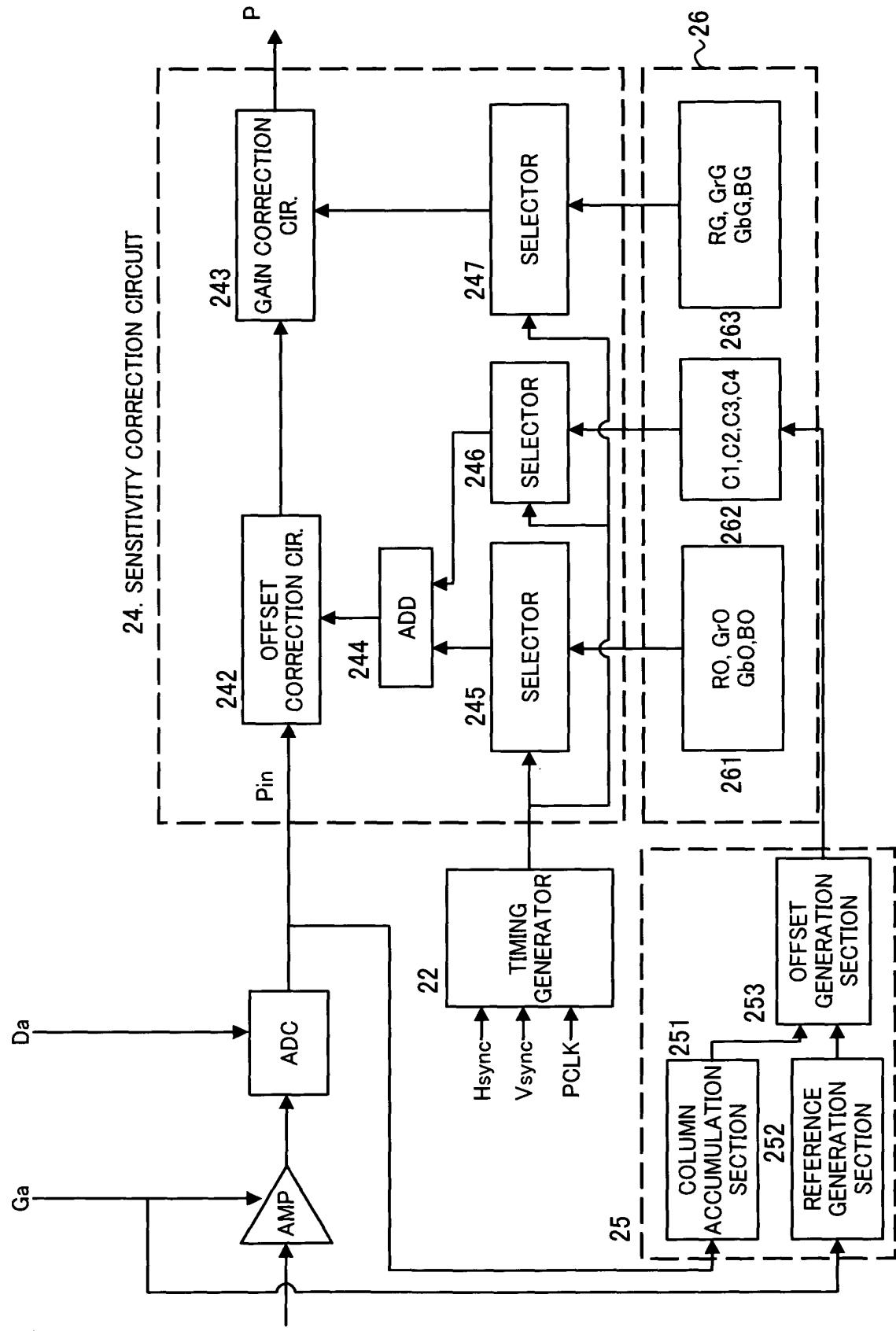


FIG. 14

